March 2013

Fluoridation News

Analysis of post-1990 fluoridation studies shows reductions in tooth decay between 30% and 59%

A recently published analysis of 59 studies published between 1990 and 2010 has found that, on average, fluoridation reduces tooth decay in primary teeth by between 30% and 59% and in permanent teeth by between 40% and 49% (1). Each study had compared levels of tooth decay in fluoridated and non-fluoridated communities.

Between them the studies examined the effects of fluoridation on teeth in ten different countries – the United States, Canada, Argentina, Brazil, the United Kingdom, Ireland, Israel, South Korea, Australia and New Zealand. The age groups of the people included in those studies ranged from 3 to 44.

One marked change in the way fluoridation studies have been carried out since 1990 is the use of advanced statistical techniques to adjust for potentially confounding factors.

When this latest analysis looked at studies in which such confounding factors had been taken into account, it found that there was hardly any effect on the scale of reductions in children's tooth decay achieved by fluoridation.

Just under half of the post-1990 studies were carried out in Brazil and Australia, where there has been a massive expansion in fluoridation coverage over the past 20 years.

1. Rugg-Gunn AJ and Do L (2012). *Effectiveness of water fluoridation in caries prevention.* Community Dentistry and Oral Epidemiology, 40 (Suppl. 2): 55-64

ANALYSIS OF 59 STUDIES PUBLISHED BETWEEN 1990 AND 2010

Average tooth decay reductions in primary teeth in fluoridated communities: 30% to 59%

Average tooth decay reductions in permanent teeth in fluoridated communities: 40% to 49%

STUDIES WERE INCLUDED IN THE ANALYSIS FROM:

The United States, Canada, Argentina, Brazil, the United Kingdom, Ireland, Israel, South Korea, Australia and New Zealand